

REMARKS

These remarks are in response to the Office Action mailed January 25, 2006. Claims 12, 14, 15, 18-20, and 45-52 are pending in the present application.

Claims 12-15 and 45-54 were rejected under 35 U.S.C. §103(a) as being unpatentable over Thiel in view of Cathers. Applicants respectfully traverse the rejection.

Independent claim 12, as amended, calls for a multiple-pane insulating glass unit having two spaced-apart panes and a spacer joining confronting, inner peripheral surfaces of the panes. The spacer and the confronting surfaces of the panes together define a between-pane space. At least one of the panes has an outer surface bearing a non-silver-based coating, wherein the non-silver-based coating is an active coating and is formed of material that does not corrode when exposed to air and moisture, the outer surface having a peripheral region that is substantially free of the active coating. In addition, the pane has a coated inner surface bearing a low-emissivity coating, the coated inner surface having a peripheral region that is substantially free of the low-emissivity coating. Claim 53 calls for the same limitation.

Thiel discloses multiple sheets maintained in a spaced relationship where the surface of each sheet facing an interior air space region between adjacent sheets is coated and has a peripheral region free of the coating. Thiel discloses that functional coatings may be present on the interior or exterior surfaces of the sheets or other interior and/or exterior surfaces of the multiple-glazed window unit. As the Examiner acknowledges, however, Thiel does not disclose that both major surfaces of any of the sheets may have peripheral regions that are substantially free of coating. The exterior surfaces of the sheets may be coated, but clearly the entire surface is coated. The exterior surfaces in Thiel do not have a peripheral region that is free of coating.

As stated in the current office action, the Examiner relies on Cathers to provide the suggestion of why it would be obvious to remove the coating on the exterior surface of the glass in

Thiel, namely that would provide better adhesion between the exterior surface of the glass on a frame. Applicants argue that, assuming for the sake of argument it was obvious to combine Thiel and Cathers, a point Applicants do not concede, the combination would still not teach or suggest all of the claim limitations.

Cathers discloses that glass sheets are often coated with a metal-containing film and that when such coated glass sheets are fabricated into window units, it may be desirable to remove a portion of the film along the perimeter of the coated glass surface where sealants or adhesives are applied in order to provide direct contact with the glass to prevent reaction with the film. This refers to the long-known problems associated with metal-containing films (in particular, problems with silver-based coatings) that are used on the interior surfaces of insulating glass units (“IG units”). These problems involve the silver metal corroding and reacting with the sealants that are adhered to the perimeter of the glass on the inside of an IG unit. Since these sealants hold an IG unit together, it is critical that they not deteriorate or else the IG unit may fail.

Thus, Cathers discloses the conventional wisdom of removing a chemically-sensitive silver-based coating (used on inner surfaces of IG units) from the periphery of a single surface of a pane in the context of assembling such panes into multiple-pane IG units. There is no disclosure or suggestion of removing any type of film from an exterior surface of the pane of glass. Nor is there any suggestion whatsoever about removing the peripheral areas of coatings on both sides of a single pane. Independent claims 12 (and each claim depending thereon), 53, and 54 require the exterior coating to be a non-silver-based coating. Claims 12 and 53 require the non-silver-based coating being formed of a material that does not corrode when exposed to air and moisture. Claim 54 requires the non-silver-based coating to be photocatalytic and is a titanium oxide-based coating. There simply is no motivation in the cited art to remove a periphery of the claimed exterior, non-silver-based coating. In fact, oftentimes one does not want to delete a non-metal containing film because it can adversely affect adhesion because oxides form a better base for adhesives than glass. Thus, in

coatings having a metal containing film, one would only want to delete down to the non-metal base coat so as to not adversely affect adhesion of the glass. For example, when metal-containing low-emissivity coatings (on the interior of an IG unit) are ground down to provide a good base on which to adhere sealant, it is a common goal to remove only the innermost metal (e.g., silver) film and all the film over the innermost metal film, thereby deliberately leaving the dielectric (e.g., oxide) base coat that is directly on the glass. This has been done because adhesive actually adheres better to the dielectric base coat than to glass itself. Thus, the teachings of Cathers reflect only the desire to get rid of the easily-corrodible metal (e.g., silver) film in low-emissivity coatings.

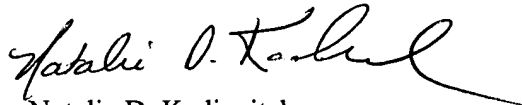
Applicant respectfully submits that no motivation exists to combine the elements found in the prior art and apply them to an exterior non-silver-based coating on an IG unit. The applied art fails to identify problems associated with mounting an IG unit having a non-silver-based exterior coating in the frame of a building without edge deleting the exterior coating. Cathers reflects the conventional motivation to remove the periphery of an interior silver-based coating, based upon the well-known chemical sensitivity of silver-based coatings and their tendency to degrade and potentially ruin the hermetic seal that is desired between the spacer and panes of an IG unit. Thus, although the applied art, at best, provides a motivation to edge delete an interior metal (silver) containing film, it fails to provide a reason or motivation for edge deleting an exterior non-silver-based coating. The cited art fails entirely to appreciate any problem associated with failing to edge delete an exterior coating, advantages of which are taught in Applicant's specification (e.g., from the second full paragraph of page 3 through the first paragraph of page 5). Likewise, the cited art fails to appreciate any benefit of providing an edge-deleted exterior coating. Therefore, a prima facie case of obviousness does not exist.

With regard to the rejection of claims 18 –20 under 35 U.S.C. §103(a) as being unpatentable over Thiel in view of Cathers and Bobel, a prima facie case of obviousness has not been made and

does not exist. Claims 18 - 20 are dependent from independent claim 12 and are thus believed to be patentable for at least the same reasons.

In view of the foregoing, it is submitted that this application is in condition for allowance. Favorable consideration and prompt allowance of the application are respectfully requested. The Examiner is invited to telephone the undersigned if the Examiner believes it would be useful to advance prosecution. The Commissioner is authorized and requested to charge to Deposit Account No. 061910 any underpayments, overpayments, or additionally required fees.

Respectfully submitted,

  
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